UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,795	09/06/2003	Ashish Thusoo	O17035722001	7099

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EXAMINER
MORRISON, JAY A

ART UNIT	PAPER NUMBER
2168	

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
Office Action Summary		10/656,795	THUSOO ET AL.
		Examiner	Art Unit
		Jay A. Morrison	2168

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 July 2006*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *23-68* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23-68* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/27/06*.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

1.   Claims 23-68 are pending.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

3.   Claims 23-31,38-41, and 43-55 are rejected under 35 U.S.C. 101 because the

claimed invention is directed to non-statutory subject matter.

Claims 23-31 and 38-41 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter. The cited claims do not produce a

tangible result. Data structures not claimed as embodied in computer-readable media

are descriptive material per se and are not statutory because they are not capable of

causing functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31

USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data

structures do not define any structural and functional interrelationships between the

data structure and other claimed aspects of the invention which permit the data

structure's functionality to be realized. In contrast, a claimed computer-readable

medium encoded with a data structure defines structural and functional

interrelationships between the data structure and the computer software and hardware

components which permit the data structure's functionality to be realized, and is thus

statutory.

The claims do not recite a practical application by producing a physical transformation or producing a useful, concrete, and tangible result. To perform a physical transformation, the claimed invention must transform an article or physical object into a different state or thing. Transformation of data is not a physical transformation. A useful, concrete, and tangible result must be either specifically recited in the claim or flow inherently therefrom. To be useful the claimed invention must establish a specific, substantial, and credible utility. To be concrete the claimed invention must be able to produce the same results given the same initial starting conditions. To be tangible the claimed invention must produce a practical application or real world result. In this case the claims fail to perform a physical transformation because the claims are directed to operating on data. The claims are useful and concrete, but they fail to produce a tangible result because no result is stored to non-volatile media or, for example, reported to a user.

As per claim 43-55, these claims clearly recite a "machine readable medium", which may comprise "acoustic or light waves". However these data signals are not tangible, and cannot tangibly embody a computer program or process since a computer cannot understand/realize (i.e. execute) the computer program or process when embodied on the data signal. Computer program or processes are only realized within the computer when stored in a memory or storage element. Therefore, a data signal does not meet the "useful, concrete, and tangible" requirement as set forth in *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02, and hence claims 25-32 are non statutory under 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

5.   Claims 23-68 are rejected under 35 U.S.C. 102(e) as being anticipated by

Traversat et al. ('Traversat' hereinafter) (Patent Number 6,957,237).

As per claim 23, Traversat teaches

"receiving a document operation request, the document operation requiring one

or more collection elements of the document to be in memory" (reference is made,

column 30, lines 42-64);

"identifying at least one of the one or more required collection elements for

processing" (object, column 29, lines 20-35);

"determining whether the at least one identified collection element is within a

collection partition in the memory" (cache hit, column 30, lines 42-64);

"loading the at least one identified collection element into memory when the at least one identified collection element is not within a collection partition in the memory" (object, column 29, lines 20-39);

"and executing the document operation" (reading object, column 31, lines 1-26).

As per claim 24, <u>Traversat</u> teaches

"a collection partition does not exceed a threshold size" (cache line, column 28, lines 35-47).

As per claim 25, <u>Traversat</u> teaches

"the threshold size is a factor of the memory size" (column 28, lines 12-25; column 28, line 65 through column 29, line 13).

As per claim 26, <u>Traversat</u> teaches

"the threshold size is user defined" (column 38, line 57 through column 39, line 20; column 26, lines 19-35).

As per claim 27, <u>Traversat</u> teaches

"the memory is fixed in size" (column 28, lines 12-25).

As per claim 28, <u>Traversat</u> teaches

"a collection partition is a unit in which data is written to or read from a data

storage device" (column 28, line 65 through column 29, line 13).

As per claim 29, <u>Traversat</u> teaches

"a collection partition comprises collection elements from one collection" (column

3, line 65 through column 4, line 20).

As per claim 30, <u>Traversat</u> teaches

"a collection partition is a disjoint subset of a collection in the document" (column

3, line 65 through column 4, line 20).

As per claim 31, <u>Traversat</u> teaches

"loading the at least one identified collection element into memory comprises:

loading the at least one identified collection element into a new collection partition in the

memory when the at least one identified collection element is not within a collection

partition in the memory" (column 21, lines 4-25).

As per claim 32, <u>Traversat</u> teaches

"determining whether the memory is full" (column 21, lines 4-25);

"selecting one or more collection partitions in the memory for removal when the

memory is full" (column 21, lines 4-25);

"propagating one or more changes in each of the one or more selected collection partitions to one or more data storage devices storing one or more collection elements in the selected collection partition" (column 28, lines 35-47);

"removing the one or more selected collection partitions from the memory" (column 21, lines 4-15);

"and updating one or more collection partitions that remain in the memory" (column 21, lines 4-15).

As per claim 33, <u>Traversat</u> teaches

"the memory is full when the memory is above a threshold" (column 21, lines 15-25).

As per claim 34, <u>Traversat</u> teaches

"the threshold is user defined" (column 38, line 57 through column 39, line 20; column 26, lines 19-35).

As per claim 35, <u>Traversat</u> teaches

"selecting one or more collection partitions in the memory for removal comprises: selecting one or more least recently used collection partitions in the memory for removal when the memory is full" (column 21, lines 4-25).

As per claim 36, <u>Traversat</u> teaches

"updating one or more collection partitions comprises: updating metadata

corresponding to the one or more collection partitions that remain in the memory" (page

table entry updated, column 21, lines 4-25).

As per claim 37, <u>Traversat</u> teaches

"the one or more selected collection partitions do not contain any of the one or

more required collection elements" (column 21, lines 4-25).

As per claim 38, <u>Traversat</u> teaches

"the document operation is a read, update, delete, insert, or create operation"

(reading object, column 31, lines 1-26).

As per claim 39, <u>Traversat</u> teaches

"the one or more required collection elements are part of one collection" (column

3, line 65 through column 4, line 20).

As per claim 40, <u>Traversat</u> teaches

"determining whether the at least one identified collection element is within a

collection partition in the memory comprises: determining whether a collection partition

corresponding to the at least one identified collection element has already been loaded

into memory" (column 30, lines 42-64).

As per claim 41, <u>Traversat</u> teaches

"loading the at least one identified collection element into memory comprises:

loading the corresponding collection partition into memory when the corresponding

collection partition has not already been loaded into memory" (cache miss, column 30,

lines 42-64).

As per claim 42, <u>Traversat</u> teaches

"the document is an XML document" (column 14, lines 46-52).

As per claims 43 and 56,

These claims are respectively rejected on grounds corresponding to the

arguments given above for rejected claim 23 and are similarly rejected.

As per claim 44 and 57,

These claims are respectively rejected on grounds corresponding to the

arguments given above for rejected claim 24 and are similarly rejected.

As per claim 45 and 58,

These claims are respectively rejected on grounds corresponding to the

arguments given above for rejected claim 27 and are similarly rejected.

As per claim 46 and 59,

These claims are respectively rejected on grounds corresponding to the arguments given above for rejected claim 28 and are similarly rejected.

As per claim 47 and 60,

These claims are respectively rejected on grounds corresponding to the arguments given above for rejected claim 30 and are similarly rejected.

As per claim 48 and 61,

These claims are respectively rejected on grounds corresponding to the arguments given above for rejected claim 31 and are similarly rejected.

As per claim 49 and 62,

These claims are respectively rejected on grounds corresponding to the arguments given above for rejected claim 32 and are similarly rejected.

As per claim 50 and 63,

These claims are respectively rejected on grounds corresponding to the arguments given above for rejected claims 33-34 and are similarly rejected.

As per claim 51 and 64,

These claims are respectively rejected on grounds corresponding to the arguments given above for rejected claim 35 and are similarly rejected.

As per claim 52 and 65,

These claims are respectively rejected on grounds corresponding to the

arguments given above for rejected claim 36 and are similarly rejected.

As per claim 53 and 66,

These claims are respectively rejected on grounds corresponding to the

arguments given above for rejected claim 38 and are similarly rejected.

As per claim 54 and 67,

These claims are respectively rejected on grounds corresponding to the

arguments given above for rejected claim 40 and are similarly rejected.

As per claim 55 and 68,

These claims are respectively rejected on grounds corresponding to the

arguments given above for rejected claim 42 and are similarly rejected.

Response to Arguments

6.   Applicant's arguments filed 7/10/06 have been fully considered but they are not

persuasive.

Regarding Applicants' arguments regarding the 35 U.S.C. § 101 rejections, it is

still maintained that the claims in question do not in fact produce a tangible result.

Additional information to assist the applicant in overcoming these rejections has been

added to the rejection above. The Applicant has also not addressed the rejections

concerning computer readable medium to claims 43-55 thus claims 43-45 are

maintained rejected under 35 U.S.C. § 101.

Applicants' argues that <u>Traversat et al.</u> ('<u>Traversat</u>' hereinafter) (Patent Number

6,957,237) does not teach or suggest either document operation request or collection

elements. Applicant further argues that <u>Traversat's</u> instances of the class's methods or

procedures (code) and/or data related to the object (column 4, lines 4-6) are not the

same as the collection elements in the immediate application. This argument is not

persuasive since the collection elements are not material to the claims, and therefore

any type of data would suffice in describing these elements. All of the items stored in

the <u>Traversat</u> reference, whether class methods, procedures, or object data, can all fit

the same definition as collection elements in the immediate application for purposes of

examination. Applicant also argues that a document operation request in the immediate

application is not the same as a memory reference; this argument is also not persuasive

since a document is again simply data and therefore the disclosed reference is sufficient

to meet the definition of a data request, which is equivalent for the purposes of

examination.

Applicant also argues that <u>Traversat</u> does not teach or suggest the limitations of

"receiving a document operation request, the document operation requiring one or more

collection elements of the document be in memory," "identifying at least one or the one

or more required collection elements for processing," "determining whether the at least

one identified collection element is within a collection partition in the memory," "loading

the at least one identified collection element into memory when the at least one

identified collection element is not within a collection partition in the memory," or

"executing the document operation". Since no further rationale is given for the

Applicants' arguments against the noted limitations, the reply is the same as previously

stated: Traversat's instances of the class's methods or procedures (code) and/or data

related to the object (column 4, lines 4-6) are not the same as the collection elements in

the immediate application. Therefore these arguments are also not persuasive.

Conclusion

7.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

The prior art made of record, listed on form PTO-892, and not relied upon is

considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay A. Morrison whose telephone number is (571) 272-7112. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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